



**SLOVENSKI STANDARD**  
**SIST EN 303-1:1999/A1:2004**  
**01-januar-2004**

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Heating boilers - Part 1: Heating boilers with forced draught burners - Terminology, general requirements, testing and marking

Heizkessel - Teil 1: Heizkessel mit Gebläsebrenner - Begriffe, Allgemeine Anforderungen, Prüfung und Kennzeichnung

Chaudières de chauffage - Partie 1: Chaudières avec bruleurs a air soufflé - Terminologie, prescriptions générales, essais et marquage

**STANDARD PREVIEW**

**Ta slovenski standard je istoveten z: EN 303-1:1999/A1:2003**

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English version

## Heating boilers - Part 1: Heating boilers with forced draught burners - Terminology, general requirements, testing and marking

Chaudières de chauffage - Partie 1: Chaudières avec brûleurs à air soufflé - Terminologie, prescriptions générales, essais et marquage

Heizkessel - Teil 1: Heizkessel mit Gebläsebrenner - Begriffe, Allgemeine Anforderungen, Prüfung und Kennzeichnung

This amendment A1 modifies the European Standard EN 303-1:1999; it was approved by CEN on 3 April 2003.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for inclusion of this amendment into the relevant national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Management Centre or to any CEN member.

This amendment exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.

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EUROPEAN COMMITTEE FOR STANDARDIZATION  
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## Foreword

This document (EN 303-1:1999/A1:2003) has been prepared by Technical Committee CEN/TC 57 “Central heating boilers”, the secretariat of which is held by DIN.

This Amendment to the European Standard EN 303-1:1999 shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by March 2004, and conflicting national standards shall be withdrawn at the latest by March 2004.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of **EU Directive(s)**.

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

This Amendment to the European Standard EN 303-1:1999 specifies the requirements for low-temperature central heating boilers. Its purpose is to complete, amend or shorten EN 303-1:1999. This does not affect the main standard.

WARNING : Other requirements and other EU Directives may be applicable to the products falling within the scope of this European Standard.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

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## 1 Scope

Replace the first paragraph by the following text :

"This European Standard applies to standard boilers and low-temperature boilers with forced draught burners with a nominal heat output not exceeding 1000 kW, which are operated either with negative pressure (natural draught boilers) or with positive pressure (pressurised boiler) in the combustion chamber, in accordance with the boiler manufacturers' instruction."

Delete the text in the 7<sup>th</sup> paragraph:

- condensing boilers, boilers with oil vaporisation burners and low temperature boilers,

and replace by:

- condensing boilers and boilers with oil vaporisation burners.

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The note of the 7<sup>th</sup> paragraph has to be deleted.

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## 2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 303-1:1999, *Heating boilers — Part 1: Heating boilers with forced draught burners — Terminology, general requirements, testing and marking.*

## 3 Terms and definitions

For the purposes of this European Standard, the following terms and definitions apply.

Add after 3.18 the following paragraphs:

### 3.19

#### **Condensate**

liquid formed from the combustion products during the condensation process

### 3.20

#### **Standard boiler**

boiler for which the average water temperature can be restricted by design

**3.21****low temperature boiler**

boiler which can work continuously with a water return temperature of 35 ° to 40 °C, possibly producing condensation in certain circumstances without impairing the boiler's operation

NOTE For oil condensing boilers see WI 0057021.

**4 Constructional and operational requirements****4.1 General principles**

*Add the following clauses at the end of the section:*

The boiler body of a low-temperature boiler must at least meet the requirements of EN 303-1.

For low-temperature boilers, all parts of the heat exchanger(s) and other parts of the boiler likely to come into contact with condensate shall be constructed of sufficiently corrosion resistant materials or materials protected by a suitable coating in order to ensure a reasonable life for a boiler that is installed, used and maintained in accordance with the manufacturer's instructions.

Surfaces in contact with condensate shall be designed to prevent condensate retention."

*After paragraph 4.1.5.17.3 add the following clauses:*

**4.1.5.18 Condensation**

For standard boilers which are designed not to give rise to condensation, there shall be no indication of condensation at the operating temperatures provided by the controls.

Low-temperature boilers are considered to be designed to give rise to condensation.

**4.1.6 Special requirements for low-temperature boilers****4.1.6.1 Low-temperature boilers without lower boiler inlet temperature limit**

Some low temperature boilers are capable of being operated with the regulation equipment of the boiler without any fixed lower boiler inlet temperature limit in which case the water temperature may fall to ambient temperature. This type of boiler shall not operate when there is no demand for heat from an external control, except under frost protection control.

**4.1.6.2 Low-temperature boilers with lower boiler inlet temperature limit**

Suitably identified low-temperature boilers are allowed the following deviations from the provisions of 4.1.6.1:

- a) the „lower boiler inlet temperature limit“ can be set to a value  $\leq 40^{\circ}\text{C}$  ,
- b) the boiler water temperature shall be held at the specified value,  $\leq 40^{\circ}\text{C}$ , during interruptions of operation without any heat being transmitted to the heating system.

**4.1.6.3 Resistance of the materials to pressure**

For low-temperature boilers, corrosion resistant coatings shall be designed in a way that they show no sign of damage after the tests of resistance of the materials to pressure during manufacture in accordance with 5.2.2 or 5.3.2.

**5 Test methods**

*Add the following clause after 5.4:*

## 5.5 Additional tests for low-temperatures boilers

### 5.5.1 Additional tests by using of corrosion resitant coatings

After each test according 5.2.2 resp. 5.3.2 corrosion resitant coatings have to be checked for symtoms of a damage

### 5.5.2 Additional tests for oil-fired low-temperatures boilers

For oil-fired low-temperatures boilers additional tests are necessary, which are written in EN 303-2/A1“

## 7 Technical Instructions, Specification

*Add the following dash to 7.2 to extend the enumeration of the required content of the mounting instruction:*

- If appropriate, the possible chemical composition of the condensate in the case of low-temperature boilers (pH, heavy metals, etc.)

*Add the following dash to 7.3 to extend the enumeration of the required content of the manual:*

- if necessary, national regulations regarding the condensate waste disposal.

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